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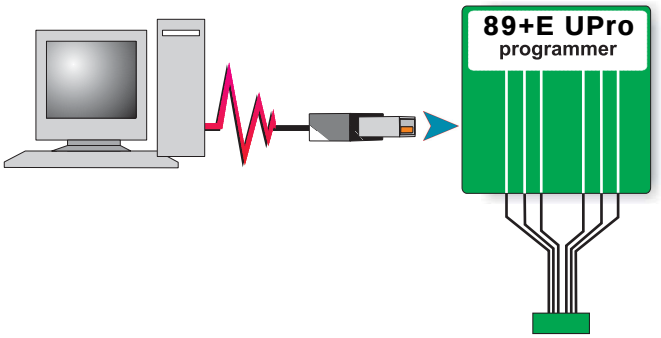
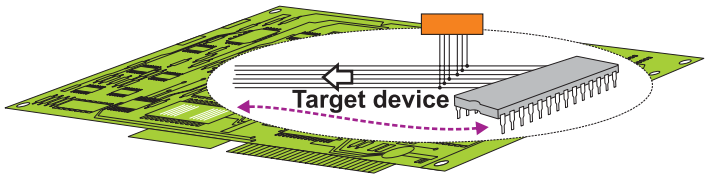
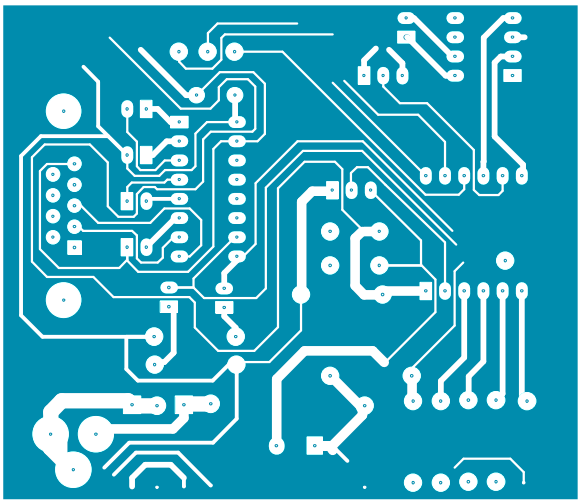
89+E UPro®

USER MANUAL







SST
ATMEL
WINBOND

Here is **89+E UPro** USB Programmer for 89 Series Microcontroller and for Serial EEPROM. With on board ZIF Socket for easy insertion & removing of ICs.

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Flash Programming Tool

EleSof®

Development System

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I want to express my thanks to you for being interested in our products & having confidence in EleSof Technologies.®

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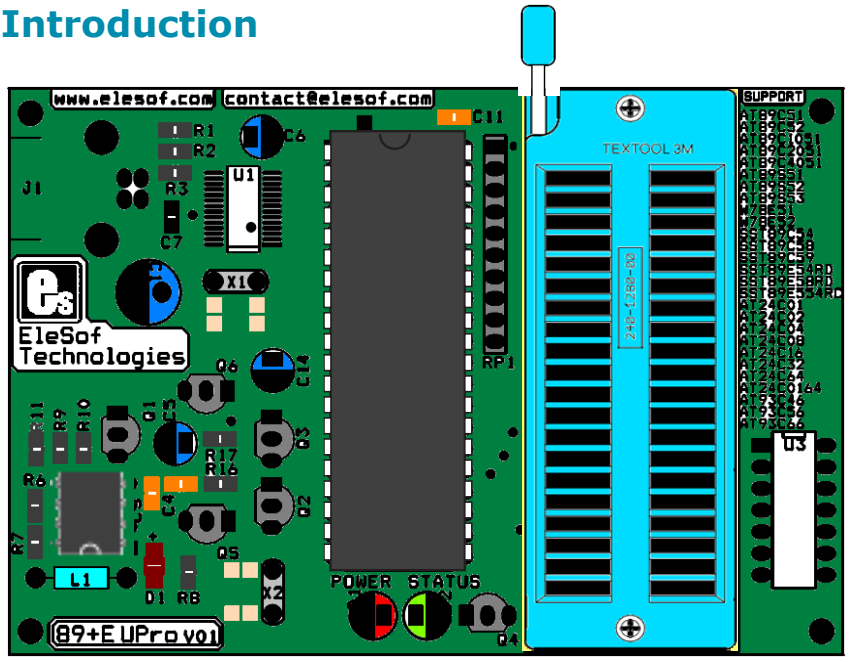
89+E UPro PROGRAMMER

Introduction



89+E UPro, this programmer is for 89 series microcontroller devices in 20 & 40 pin packages and supports various 8 pin serial EEPROM ICs. ZIF socket enables easy insertion and removal of devices for programming. Programming is very fast since it is USB based. No external power required since it is powered from USB port itself.

Features

- Simple and Easy to use
- Auto Erase/Lock/Verify
- Auto Identify connected programmer
- Error checking and verification in-built
- Led's for Programming & Power ON status.
- Supports 89 series & serial EEPROM devices
- 40 pin ZIF socket for easy insertion & removal
- High speed writing (8kb flash file in 10 seconds)
- Powered from USB port(No external power required)
- Informative window and access to latest programmed file
- Lock of programs in chip supported to prevent program copying

Specification

- Power +5V from USB Cable
- Communication USB 2.0 compliant
- Cable required USB A to B type for connecting PC or Laptop
- Dimension 10x6.7 Cm

Package Contain

- Tested & Ready to use USB Programmer
- CDROM containing Flashing software, USB Driver & User Manual.
- USB Cable for connecting **89+E UPro** to PC

Supported ICs

ICs supported by **89+E UPro** are mentioned below.

Atmel	Winbond	SST	Serial EEPROM	Serial EEPROM
AT89C51	W78E51	SST89C54	AT24C01	AT93C46
AT89C52	W78E52	SST89C58	AT24C02	AT93C56
AT89S51		SST89C59	AT24C04	AT93C66
AT89S52		SST89E54RD	AT24C08	
AT89S53		SST89E58RD	AT24C16	
AT89S8252		SST89E554RC	AT24C32	
AT89C1051			AT24C64	
AT89C2051			AT24C164	
AT89C4051				

Getting Started First Time Use

Below steps are mentioned for using **89+E UPro** programmer for programming supportive ICs and this is first time required if system change than again need to follow the same steps mentioned below to work on that system.

Step #1: Connect Programmer to USB port & Start Software

Connect programmer to USB port **RED LED** permanent become ON and **GREEN LED** will blink once and become off. It is normal indication of everything is ok and it is ready to use.

Step #2: Install USB Driver

Insert the CDROM provided with programmer. There will be a folder called USB Driver. It contains a file"UsbDriver.exe" clicks on that to install.

Step #3: Install Flashing Software

Install Flashing software by running its setup " 89+E UPro.exe " from CDROM in folder Flashing Sof--tware and follow onscreen instructions. After setup is done, it will install icon on desktop.

Step #4: Run Flashing Software

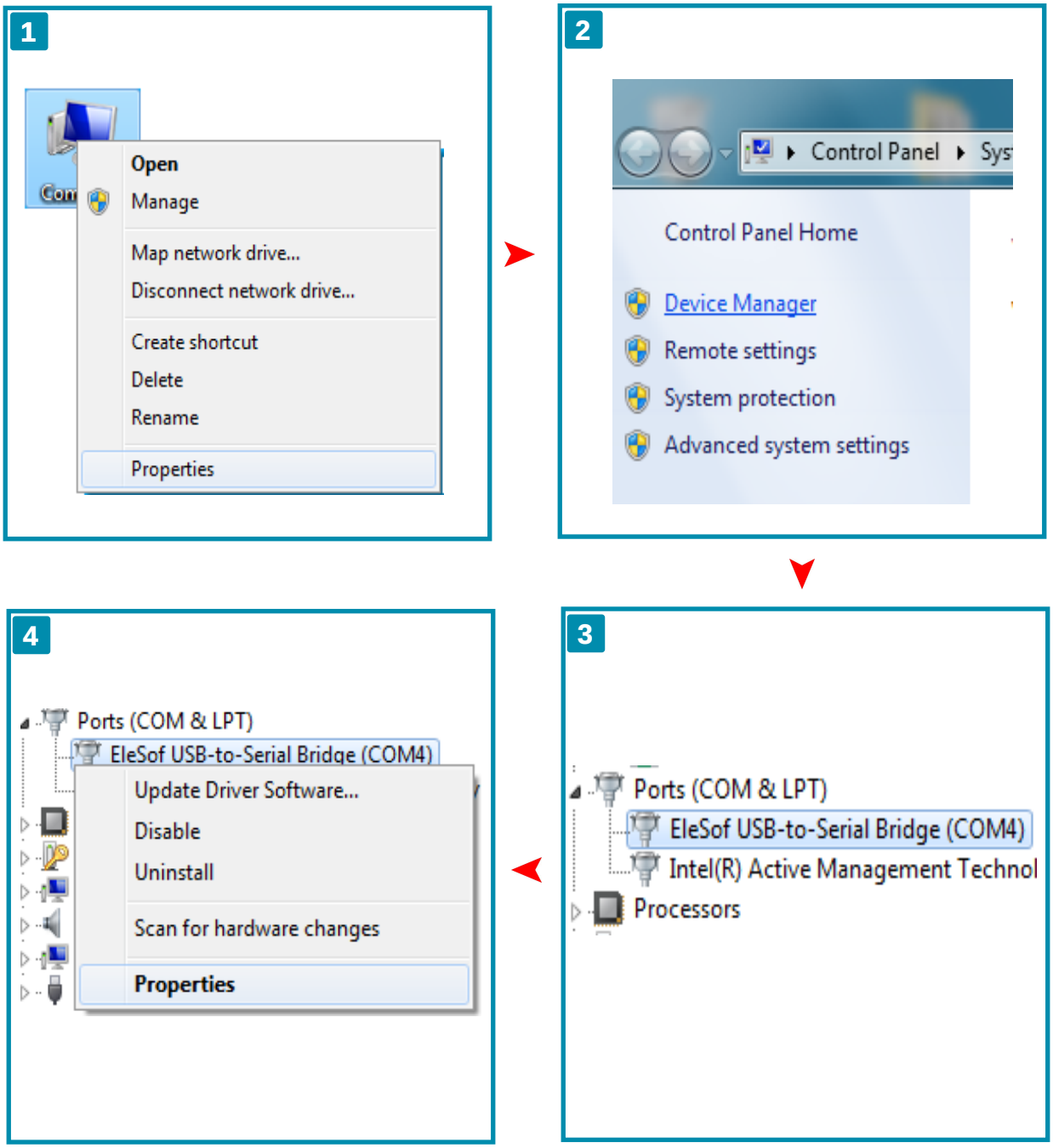
Run Flashing Software (89+E UPro.exe). Software should connect and show ONLINE icon green color at bottom. Your programmer is ready to use.

Note: Flashing Software (89+E UPro.exe), is only for **Windows-XP** & **Windows-7**

Troubleshooting- Failed to Connect in Software

If you get **Failed** to connect error in software, It is possible that virtual com port is not between COM1-COM9. Change the COM port on your system from Device Manager. Also you can try Reinstalling USB driver.

Below are the steps to change COM port on your system for **89+ E UPro programmer**.



89+E UPro PROGRAMMER

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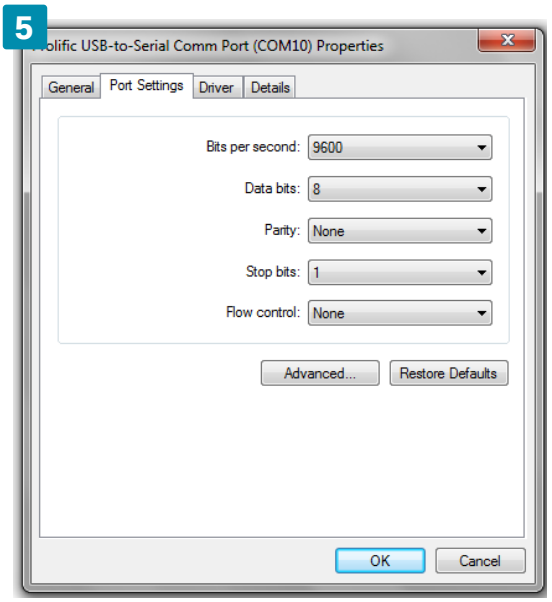

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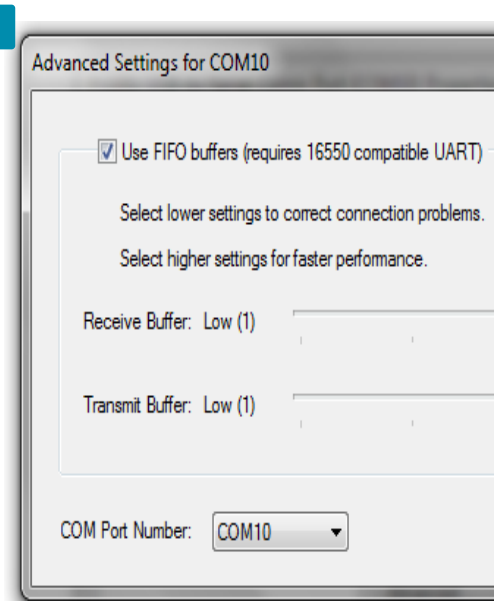

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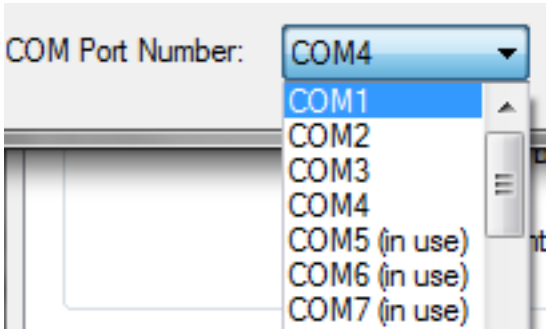

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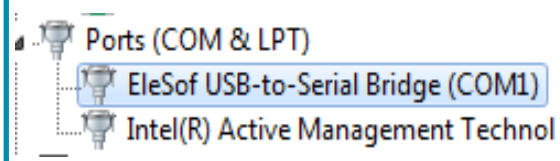
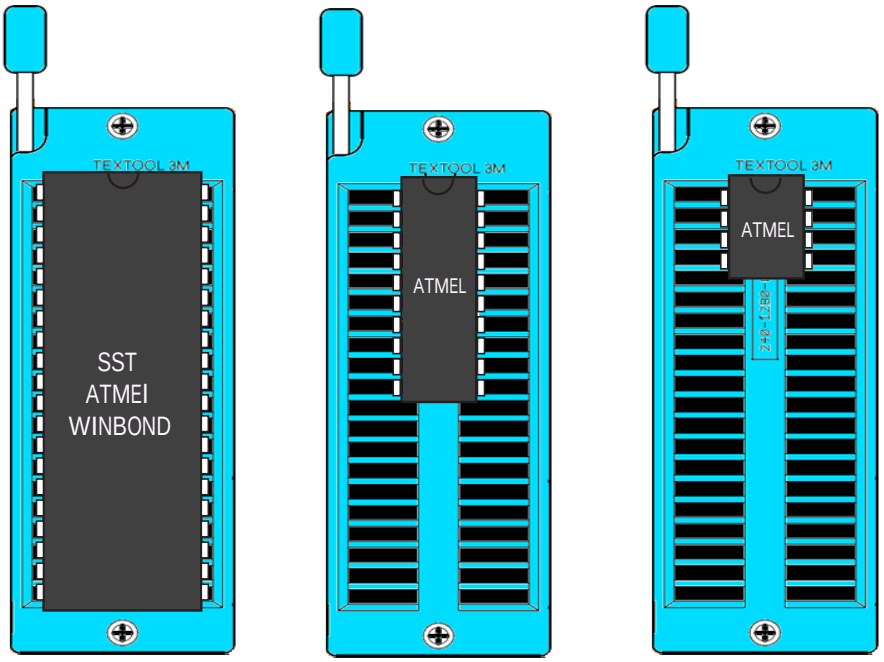


ICs Placement

Below images shows ICs placement over ZIF Socket of **89+E UPro** for programming.

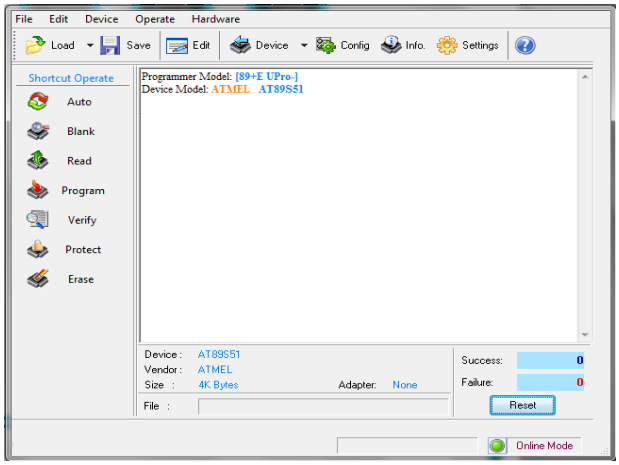


Flashing Steps

TO flash ICs which supported by **89+E UPro,** follow the steps mentioned below.

Step #1: Connect 89+E UPro & Run Flashing Software (89+E UPro)

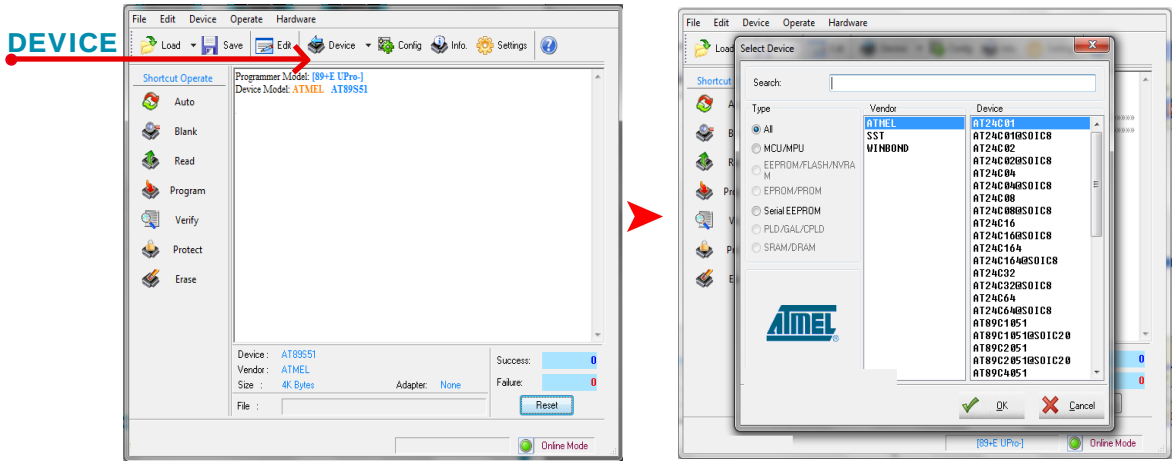
Connect **89+E UPro** with PC USB port, through A-B USB cable & run Flashing Software .



Note: Select 89+E UPro if programmer auto not detected

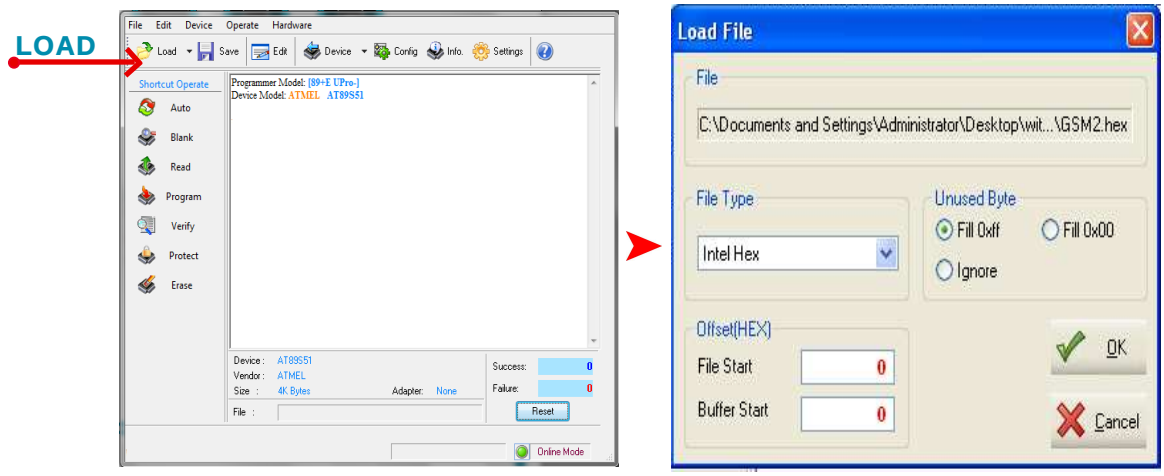
Step #2: Select Device

By clicking Device button to bring device selection dialog. After selecting inserted device click OK. To select recently used devices you can click on down arrow & select.



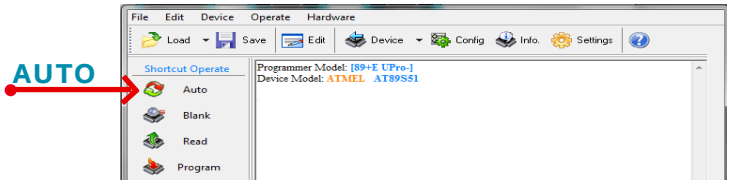
Step #3: Load file

PC software takes HEX or BIN file for programming. Load > Select HEX file & click OK. To select recently used files you can click on down arrow & select you will see following dialog when you load a HEX extension file. You can keep all setting as default and click OK to select this file.



Step #4: Auto Program

Click on Auto button to start programming process.

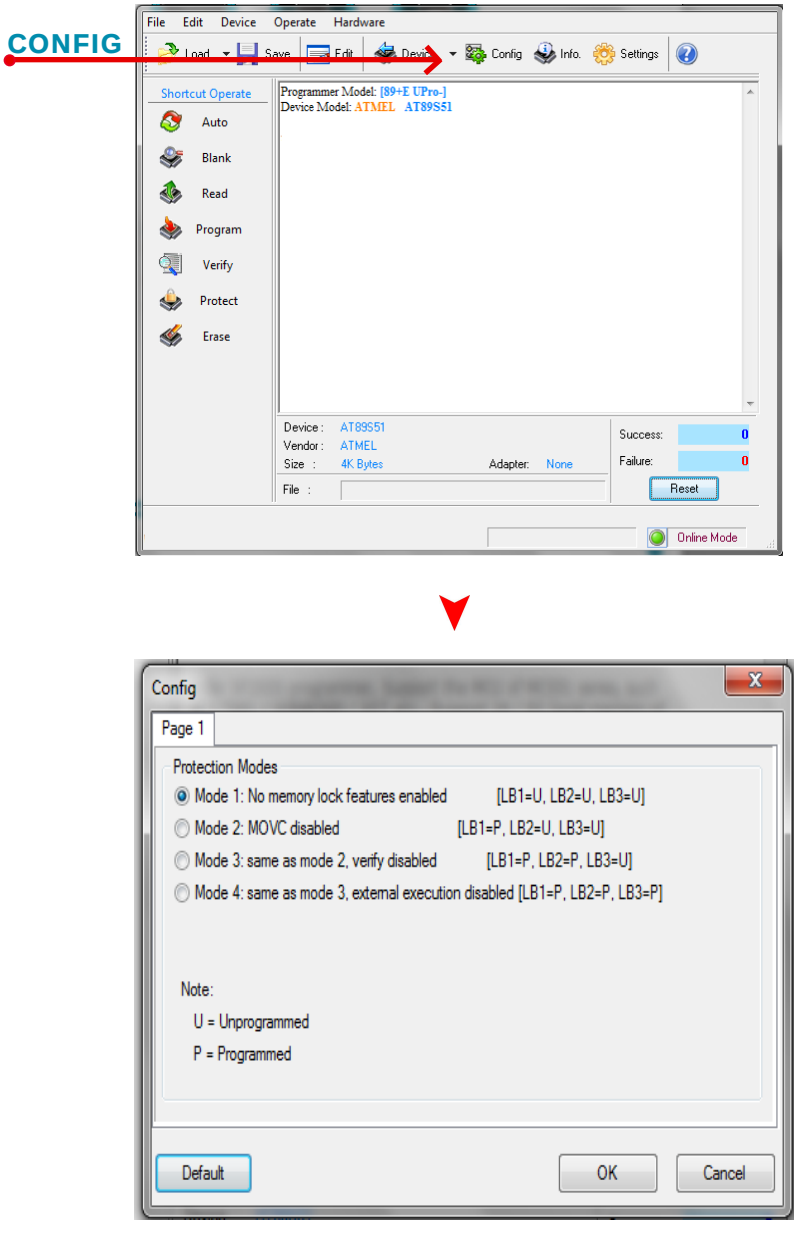


Other Special Function

Locking Device to prevent copying

To set lock option for selected device click on config, Mode0 is no lock and other modes are other lock options. You can see device datasheet as to which config lock bit will be suitable in your application. Once you set a config for particular device it is stored and it is not required to set again.

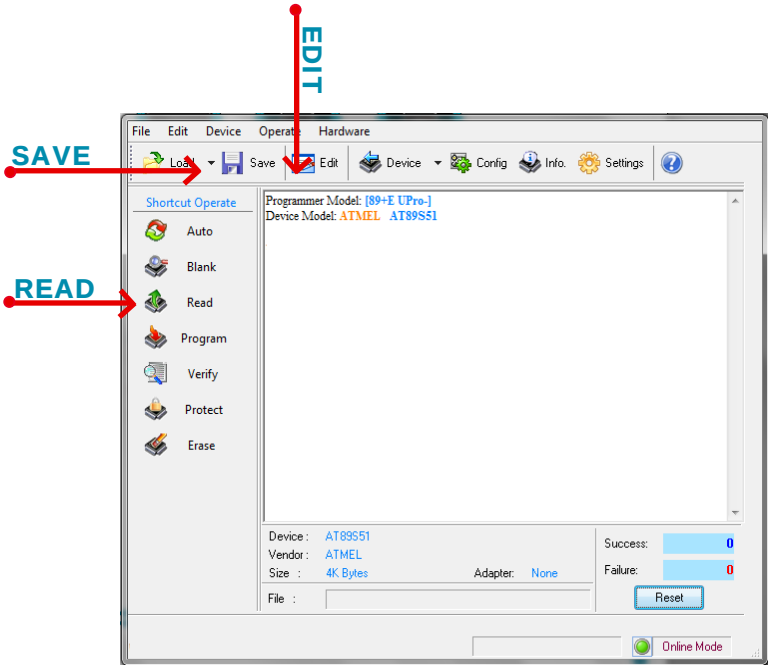
Next time you program a particular device same config will be used to load in to device during Auto process.



Note: Before Selection Locking mode (Protection Mode) ensure your self.

Copying from one device to another

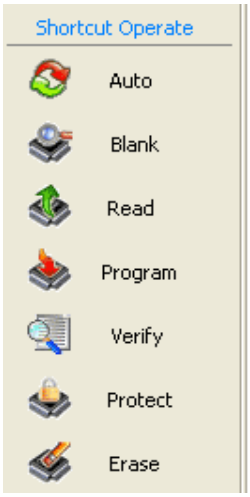
You may wish to copy content from one programmed IC to another. For this process, first select device and Insert Master IC from which you want to copy program then click on READ button. It will read device memory to buffer. If you wish to see what content was read you can click on EDIT button.



To save this memory as HEX file you can click on SAVE button. If your master IC is locked, it will show memory as 0xFF means its content cannot be read. Once you have saved file from master you can use this file to load into new microcontrollers.

Other software options

Normally you will use Auto method in repeated programming task. Auto method will automatically do Erase Blank Check, Program, Verify & Protect. We have given other options like Blank, Read, Program, Verify, Protect & Erase, that can be used individually if you wish.



Following are methods you can use

- **Auto:** Automatically do all process below as required to load file into device
- **Blank:** Check if device is blank
- **Read:** Read content of inserted device into buffer
- **Program:** Load the content of file into device
- **Verify:** Check if loaded file content matches with device content
- **Protect:** Program config options to device
- **Erase:** Erase the device.

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